IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 1 and 3-5 and ADD new claims 9-18 in accordance with the following:

1. (CURRENTLY AMENDED) An optical amplifying apparatus for amplifying wavelength division multiplexed signals, comprising:

an optical amplifying unit amplifying an input light;

an input branching unit branching the input light;

an optical filter passing a specific wavelength of the branched light;

a specific wavelength measuring unit ~~that measures~~measuring the ~~light~~ power of filtered light~~optical signals of a specific wavelength at a measuring point at a position that has no filter in front of said position wherein an optical signal that has not been filtered can be measured at said measuring point~~;

a total power measuring unit ~~that~~ measuring ~~measures~~ the light power of the branched light ~~said optical signals of all wavelengths at said measuring point~~; and

a ~~an output~~ control unit controlling ~~that controls~~ the ~~output of said~~ the optical amplifying unit ~~apparatus~~ based on the light power measured by ~~said~~ the specific wavelength measuring unit and the ~~light power measured by said~~ total power measuring unit.

2. (PREVIOUSLY PRESENTED) The optical amplifying apparatus as claimed in claim 1, wherein said specific wavelength measuring unit further comprises a variable-wavelength optical filter.

3. (CURRENTLY AMENDED) The optical amplifying apparatus as claimed in claim 1, wherein

~~said measuring point is positioned at one of an input stage, an intermediate stage, and an output stage; and~~

said ~~output~~ control unit, when the light power measured by said specific wavelength

measuring unit does not change and the light power measured by said total power measuring unit changes, determines the number of multiplexed wavelengths of said optical signals based on the light power measured by said specific wavelength measuring unit and the light power measured by said total power measuring unit.

4. (CURRENTLY AMENDED) The optical amplifying apparatus as claimed in claim 1, wherein said ~~output~~ control unit, when change in the light power measured by said specific wavelength measuring unit is equal to change in the light power measured by said total power measuring unit, controls the ~~output~~ input of said amplifying apparatus based on the light power measured by said specific wavelength measuring unit and the light power measured by said total power measuring unit so as to compensate for the loss of optical transmission path.

5. (CURRENTLY AMENDED) The optical amplifying apparatus as claimed in claim 1, wherein

said measuring point is positioned at an output stage; and

said ~~output~~ control unit controls the ~~output~~ input of said optical amplifying apparatus based on the number of multiplexed wavelengths, the light power measured by said specific wavelength measuring unit, and the light power measured by said total power measuring unit so as to compensate a gain gradient of ~~output~~ input optical signals.

6. (CANCELLED)

7. (CANCELLED)

8. (CANCELLED)

9. (NEW) An optical amplifying apparatus for amplifying wavelength division multiplexed signals, comprising:

an optical amplifying unit amplifying an output light;

an output branching unit branching the output light;

an optical filter passing a specific wavelength of the branched light;

a specific wavelength measuring unit measuring power of filtered light;

a total power measuring unit measuring the light power of the branched light; and

a control unit controlling the optical amplifying unit based on the light power measured by

the specific wavelength measuring unit and the total power measuring unit.

10. (NEW) The optical amplifying apparatus as claimed in claim 9, wherein said specific wavelength measuring unit further comprises a variable-wavelength optical filter.

11. (NEW) The optical amplifying apparatus as claimed in claim 9, wherein

said control unit, when the light power measured by said specific wavelength measuring unit does not change and the light power measured by said total power measuring unit changes, determines the number of multiplexed wavelengths of said optical signals based on the light power measured by said specific wavelength measuring unit and the light power measured by said total power measuring unit.

12. (NEW) The optical amplifying apparatus as claimed in claim 9, wherein said control unit, when change in the light power measured by said specific wavelength measuring unit is equal to change in the light power measured by said total power measuring unit, controls the output of said amplifying apparatus based on the light power measured by said specific wavelength measuring unit and the light power measured by said total power measuring unit so as to compensate for the loss of optical transmission path.

13. (NEW) The optical amplifying apparatus as claimed in claim 9, wherein

said measuring point is positioned at an output stage; and

said control unit controls the output of said optical amplifying apparatus based on the number of multiplexed wavelengths, the light power measured by said specific wavelength measuring unit, and the light power measured by said total power measuring unit so as to compensate a gain gradient of output optical signals.

14. (NEW) An optical amplifying apparatus for amplifying wavelength division multiplexed signals, comprising:

a first optical amplifying unit amplifying an input light;

a second optical amplifying unit amplifying an output light;

a first input branching unit branching the input light;

a second output branching unit branching the output light;

a first optical filter passing a specific wavelength of the branched input light;

a second optical filter passing a specific wavelength of the branched output light;

a first specific wavelength measuring unit measuring power of filtered input light;

a second specific wavelength measuring unit measuring power of filtered output light;

a total power measuring unit measuring the light power of the branched input light and the branched output light; and

a control unit controlling the optical amplifying units based on the light power measured by the specific wavelength measuring units and the total power measuring units.

15. (NEW) The optical amplifying apparatus as claimed in claim 14, wherein said specific wavelength measuring units further comprises variable-wavelength optical filters.

16. (NEW) The optical amplifying apparatus as claimed in claim 14, wherein

said control unit, when the light power measured by said specific wavelength measuring units does not change and the light power measured by said total power measuring unit changes, determines the number of multiplexed wavelengths of said optical signals based on the light power measured by said specific wavelength measuring units and the light power measured by said total power measuring unit.

17. (NEW) The optical amplifying apparatus as claimed in claim 14, wherein said control unit, when change in the light power measured by said specific wavelength measuring unit is equal to change in the light power measured by said total power measuring unit, controls the input and output of said amplifying apparatuses based on the light power measured by said specific wavelength measuring units and the light power measured by said total power measuring unit so as to compensate for the loss of optical transmission path.

18. (NEW) The optical amplifying apparatus as claimed in claim 14, wherein

said measuring point is positioned at an output stage; and

said control unit controls the output of said optical amplifying apparatus based on the number of multiplexed wavelengths, the light power measured by said specific wavelength measuring units, and the light power measured by said total power measuring unit so as to compensate a gain gradient of output optical signals and input optical signals.